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RESPONSE UNDER 37 C.F.R. §1.116
GROUP ART UNIT 2861

03500.014905

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#12
Response (NE)
DSmall 15-10-02

In re Application of:)
: Examiner: T. Nguyen
NAOJI OTSUKA ET AL.)
: Group Art Unit: 2861
Application No.: 09/702,765)
: Filed: November 1, 2000)
: For: TWO-WAY PRINT APPARATUS)
AND PRINT METHOD : October 3, 2002

Commissioner for Patents
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Washington, D.C. 20231

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RESPONSE AFTER FINAL ACTION

Sir:

In response to the Office Action dated July 3, 2002, the Examiner is respectfully requested to reconsider the following remarks.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on

October 3, 2002

(Date of Deposit)

PETER G. THURLOW Reg. No. 47,138

(Name of Attorney for Applicants)

Peter G. Thurlow

October 3, 2002

Signature

Date of Signature

Claims 1-27 are pending in this application, of which Claims 1, 19, 20, 22, and 25. Favorable reconsideration is requested.

First, Applicants gratefully acknowledge the allowance of Claims 1-19 and 22-26 and the indication that Claims 21 and 27 include allowable subject matter and would be allowable if rewritten in proper independent form. Claims 21 and 27 have not been so rewritten at this time because, for the reasons described below, Applicants traverse the rejection of base Claim 20 from which Claims 21 and 27 depend.

The Office Action objected to Figures 10, 12A, and 12B, asserting that these figures should be designated as --Prior Art-- because only that which is old is illustrated. Applicants respectfully traverse this objection and submit that Figure 10 shows the order of ejection of the print data is changed by the scanning direction, where the color unevenness is generated (see, e.g., the specification at page 31, lines 21-24). In other words, Figure 10 shows the problem associated with not controlling the landing positions of the dots, which the embodiment as shown in Figure 11 corrects. In addition, in regard to Figures 12A and 12B, these figures are used to compare the nozzle 110 arrangement shown therein as compared to the nozzle 110, 111 arrangement shown in Figure 12C (see, e.g., the specification at page 34, line 11 to page 35, line 17). Applicants submit that the content of Figures 10, 12A, and 12B is not "old"; rather, these figures are being used to explain the problems associated with not controlling the printing of the dots, and other nozzle arrangements. At least for these reasons, Applicants respectfully request that the objection related to Figures 10, 12A, and 12B be withdrawn.

The Office Action rejected Claim 20 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,086,181 (Majette et al.). Applicants respectfully traverse this rejection.

The aspect of the present invention set forth in Claim 20 is a print method

that is capable of forming a color image by applying ink materials of plural colors in different amounts onto a print medium while scanning a recording head in two directions. The method applies an ink material of a certain color in at least one kind of amount for forming a secondary color in a pixel area of the secondary color. The method also applies an ink material of another color in the amount onto the pixel area for forming the secondary color in combination with the certain color, after the application of the ink of the certain color. In addition, the method applies the ink material of the certain color in the amount onto the pixel area, after the application of the ink material of the another color.

Important features of Claim 20 are that it is directed to an ink application order onto a pixel area for expressing a secondary color. In addition, it specifies that the ink materials are applied onto a pixel area so that dots of the secondary color may be formed at plural positions of the pixel area while changing the orders of application of the ink materials of plural colors for expressing the secondary color.

Majette et al., as understood by Applicants, relates to a print mask and multi-pass printing modes, for high quality and high throughput with liquid-base inks. The Office Action states that Figure 12 "discloses every element of the instant claimed steps of applying ink materials of plural colors in [a] different order for expressing the secondary color." Applicants note that the discussion in the specification related to Figure 12 states: "FIG. 12 is a diagram like FIGS. 2 through 5, and FIGS. 9 and 10, but for very fine (too small to be visible in the diagram) interleaving advances--in combination with a full-height advance." However, Applicants have not found any other discussion of FIG. 12 in Majette et al. that would teach or suggest the features of the present invention as recited in Claim 20. Moreover, in Majette et al., Figure 2 (which Figure 12 refers to) illustrates that the printing medium advances by two unequal distances in alternation. A relatively short advance distance is used between each rightward sweep 1 and its succeeding leftward

sweep 2; and a relatively long advance distance between each leftward sweep 2 and its succeeding rightward sweep 1. Every other advance is short--between odd and even passes 2A and 2B, and 2C and 2D. The alternate passes are long, as between even and odd passes 2B and 2C, and 2D and 2E. Odd sub-swaths 2a, 2c, 2e are shallow, while the even sub-swaths 2b, 2d are tall. Based on this discussion in Majette et al., the invention therein is directed to the changing of a size of an area (e.g., swath 2a, 2b, etc.) in a conveying direction, where bi-directional scans are executed. However, Majette et al. would not teach or suggest any of the features of the present invention as recited in Claim 20, in particular, Majette et al. would not teach or suggest that plural dots are formed on a minute area such as pixel area for expressing thereon a secondary color. At least for these reasons, Applicants submit that Claim 20 is patentable over Majette et al.

(Applicants note that no other claims have been rejected in this application.)

This Response After Final Action is believed clearly to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Response After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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